GLOSSARY OF TERMS AND ACRONYMS

ACE	Advanced Composition Explorer: *Charged particle detector for study of isotopic and elemental composition of energetic particles in interplanetary science*
ACF	Attitude Control Function (Space Station)
ACTS	Advanced Communications Technology Satellite: Flight verification of high risk communications technology to support future satellite communications systems
Adiabatic	Capable of a change in volume or pressure without loss or gain of heat
AIRS	Atmospheric Infrared Sounder
Albedo	Fraction of incident light or electromagnetic radiation that is reflected by a surface of body free from water, especially water of crystallization
ALERT	An ALERT reports a problem with parts, components, materials, specifications, manufacturing processes, or test equipment that can cause a functional failure. (also see FEDI)
AMSR	Advanced Mechanically Scanned Radiometer
Anhydrous	Having no water of crystallization, without water
Arc Discharge	See electrostatic discharge
ARC	Ames Research Center
ASRM	Advanced Solid Rocket Motor
ASTM	American Society for Testing and Materials
ATS-F	Applications Technology Satellite Advanced Technology Spacecraft
AXAF	Advanced X-Ray Astrophysics Facility: A major free flying X-ray observatory using a high resolution telescope. Designed to operate in orbit for 15 years. AXAF-I(Imager) and S(Spectroscopy) are complimentary missions to perform high-quality x-ray imaging and spectroscopy over an extended lifetime Advanced X-Ray Astronomy Facility
Capillary Pumping	Transfer of heat pipe condensate through extruded capillary wicks. The process is generated by the heat transfer
CAPT	NASA/MSFC CFD Consortium for Applications in Propulsion Technology
Carbonization	Process of covering, treating or combining with carbon
CDR	Critical Design Review

CFD	Computational Fluid Dynamics Converter, Frequency to dc Voltage
CIL	Critical Item List
CIV	Corona Inception Voltage
COBE	Cosmic Background Explorer
Colorimetric	Analyzing or measuring color hue or intensity with a colorimeter
Conductance	The ease with which charges are transferred through a conductor, measured in amperes/volt or siemens
Conductance, diode	Heat pipe heat transfer using a gas reservoir acting as a liquid or gas trap to only permit one-direction heat flow.
Conductance, fixed	Heat pipe heat transfer with no inherent temperature control capability and with no transfer directional control
Conductance, variable	VCHP (Variable Conductance Heat Pipe uses non-condensable gas to control temperature to less than 1^0K by use of a moveable gas/vapor interface.
Contamination, molecular	Contamination of spacecraft consisting of deposited outgassed products such as lubricants, exposed organic materials, and volitile condensible materials
Contamination, particulate	Airborne particles such as insulation shreds, clothing fibers, and other human induced substances and trapped particles in interstitial spaces..
Corona	Partial breakdown of a gaseous medium when electric fields are marginally strong enough to initiate breakdown of the medium but cannot sustain the breakdown. Recombination takes place before ions or electrons can impinge on their respective electrodes. Faint glow appearing around an electrical conductor at high voltage, due to ionization of the air
Cryogenics	Temperature region of liquefied gases below 123^0K (-150^0C)
CTS	Communication Technology Satellite
CVCM	Collected Volatile Condensable Mass
Deperm	To reduce the magnetism of a body, e.g., a spacecraft instrument, as a precaution against influence on measurements or operation
Deposition	Depositing of a surface material by such means as ion bombardment/implantation, chemical vapor, chemical solution, or electrochemical plating
DIRBE	Diffuse Infrared backgound experiment flown on COBE
DMR	Differential Microwave Radiometer instrument flown on COBE
Dumet	A ferromagnetic alloy whose mechanical properties make it suitable for leads hermetically sealed to glass. It's high magnetic prermeability also make it suitable for use in "telltale" magnetic field sensors.
ECR	Engineering Change Request
EEE Parts	NASA Standard Electrical, Electronic, and Electromechanical Parts

Electrolysis	The decomposition into ions of a chemical compound in solution by the action of an electric current passing through the solution
Electromagnetic Radiation	A series of electromagnetic waves propagated by simultaneous periodic variations of electric and magnetic field intensity and that include radio waves, infrared, visible light, ultraviolet, X-rays and gamma-rays.
Electrostatic Discharge (ESD)	Release of electrostatic charges with sufficiently high voltages to cause initial or latent damage to electronic equipment or sensitive devices
Ellipsometry	The science of measuring thickness of films, generally an optical measurement method that measures surface effects
ELV	Expendable Launch Vehicle: *Unmanned rocket used to deploy spacecraft into earth's orbit*
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
EOS	Earth Observing Satellite
ERBS	Earth Resource Budget Satellite
ESS	Environmental Stress Screening
ET	Shuttle External tank
EUVE	Extreme Ultraviolet Explorer: Designed to produce definitive sky map and a catalog of the extreme ultraviolet portion of the electromagnetic spectrum (100-1000 angstroms)
EVA	Extravehicular Activity
FAM	Flight Assurance Manager
FEDI	Failure Experience Data Interchange is the GIDEP data interchange relative to ALERTS, SAFE-ALERTS and Problem Advisories. The FEDI contains objective failure information generated when significant problems are identified on parts, components, processes, equipment, materials, specifications or safety hazards
FIRAS	A modified Michelson interferometer that operates in the wavelength range from 0.1 to 10 mm to determine the spectrum of the cosmic background radiation. (Flown on COBE)
Flux	Magnetic flow in a magnetic circuit (1 weber = 10^8 maxwells)
FMEA	Failure Modes and Effects Analysis
FMECA	Failure Modes, Effects and Criticality Analysis
FTIR spectroscopy	Fourier Transform Infra Red Spectroscopy
FULL ALERT	A serious problem which involves a high probability of causing a failure in quality sensitive equipment. It should be disseminated immediately for investigation and a required response (see also FEDI).

Galvanic Corrosion	Galvanic Corrosion manifests itself on the accelerated corrosion of the more active metal (anode) of a dissimilar metal couple in an electrolyte solution or medium and decreased corrosive effects on the less active metal (cathode) as compared to the corrosion of the individual metals when not connected in the same electrolyte environment (MIL-STD-889B, 7 July 1976)
Gauss	Magnetic flux density (ratio of flux a given cross section to the area of that cross section) (1 maxwell/cm^2 or 10^{-4} weber/m^2
GEVS-SE	General Environmental Verification Specification for STS and ELV payloads, subsystem, and components (GSFC)
GH2	Gaseous Hydrogen
GIDEP	Government-Industry Data Exchange Program
GLL	Galileo: Investigates the chemical composition and physical state of Jupiter's atmosphere and satellites
GO_2	Gaseous Oxygen
GOES	Geostationary Operational Environmental Satellite: NOAA weather satellites
GPS	Global Positioning System
GRO	Gamma Ray Observatory: Investigates extraterrestrial gamma-ray sources
GSE	Ground Suport Equipment
GSFC	Goddard Space Flight Center
HEAO	High Energy Astronomical Observatory: Satellite to study energetic radiation from space
HEPA	High Efficiency Particle Air filter system used for contamination control during spacecraft transportation
Hermeticity	Generally a glass to metal seal. Mil-STD-883B (Method 1014.2) leak tests with limits from $1x10^{-7}$ to $5x10^{-8}$ atm. cm^3 /s of helium.
HST	Hubble Space Telescope: Observes the universe to gain information about its origin, evolution, and disposition of stars, galaxies, etc.
Hyperenvironmental	Outside the complex of physical, chemical and biotic factors that surround an organism or ecological community and ultimately determine its form and survival
Hypervelocity	A high or relatively high velocity, generally greater than 10,000 feet per second.
ICD	Interface Control Drawings
IDGE	Isothermal Dendritic Growth Experiment
IMP	Initial Memory Protection
IP&CL	Instrumentation Program and Command List
IRAS	Infrared Astronomical Satellite: An all sky survey for objects that emit infrared radiation

Isothermalization	Maintenance of a constant temperature over an area or volume
ISTP	International Solar Terrestrial Program
IUE	International Ultraviolet Explorer
IUS	Inertial Upper Stage: Upper stage system for Shuttle and Titan
IVA	Intra-vehicular Activity
JPL	Jet Propulsion Laboratory
JSC	Lyndon B. Johnson Space Center
KSC	Kennedy Space Center
LaRC	Langley Research Center
LeRC	Lewis Research Center
LDO	Long Duration Orbiter
LET	Linear Energy Transfer
LH_2	Liquid Hydrogen
LO_2	Liquid Oxygen
LRV	Launch Readiness Verification Long Range Video
LPX	Liquid Plume Experiment
MAC	Mass acceleration curve
MC	Monte Carlo analysis
MEA	Maintenance Engineering Analysis Main Electronics Assembly Material Experiment Assembly
MECO	Main Engine Cutoff
MEOP	Maximum expected operating pressure
Metallization	To coat, treat, or combine with a metal
MGN	Magellan: Spacecraft designed to globally map the surface of Venus
Microfissuring	The formation of small cracks in the weld metal or weld heat-affected zone within the grain boundaries or low melting constituent regions resulting from weld thermal stresses.
Millijoule	Unit of energy, work , quantity of heat
MISR	Multi-Angle Imiging Spectroradiometer
MLP	Mobile Launch Platform
MLS	Microwave Landing System
Modulus	(1) of elasticity - (psi) ratio of increment of unit stress to increment of unit deformation within the elastic limit; (2) of resilience - (pounds /cu in) also called unit resilience - the elastic energy stored up in a cubic inch of material at the elastic limit

MOP	Maximum Operating Pressure
MPT	Magnetic Particle Testing
MSDS	Material Safety Data Sheet
MSFC	Marshall Space Flight Center
Nadir	Point of the celestial sphere that is directly opposite the zenith and vertically downward from the observer
nano Tesla	Measure of magnetic flux density, 10^{-9} weber/meter^2
NCG	Non-condensable gas
NDE	Non-destructive Analysis
NESSUS	Numerical Evaluation of Stochastic Structures Under Stress computer probabilistic design tool
NESSUS/FEM	Finite Element Methods (FEM) module - finite element analysis code that can generate perturbed solutions about a deterministic state.
NESSUS/FPI	Fast Probability Integration (FPI) module - contains several advanced reliability methods including Monte-Carlo simulation.
NESSUS/PRE	Pre-processor module - used to obtain characteristics of partially correlated Gaussian fields in terms sets of uncorrelated random vectors.
NESSUS/PFEM	Combines NESSUS/FEM and NESSUS/FPI into a single computer program allowing the entire probabilistic finite element analysis, including perturbations of the primitive variables, to be performed in a single execution step.
NOAA	National Oceanic and Oceanographic Administration: Series of operational environment satellites in polar orbit
NSCAT	NASA Scatterometer
NSPAR	Nonstandard Parts Approval Request
NSPL	NASA Standard Parts List (MIL-STD-975)
NSTAR	NASA SEP Technology Application Readiness
NSTS	National Space Transportation System
NVR	Non-volatile Residue
OAO	Orbiting Astronomical Observatory
OAO-C	Orbiting Astronomical Observatory
Offgassing	The emanation of volatile matter of any kind from materials into a manned pressurized volume
OSEE	Optically stimulated electron emission
Outgassing	The spontaneous evolution of gas or vapor from a material and evolution of the decomposition products, in a vacuum.
Palladium	Rare silvery-white, ductile, malleable, metallic chemical element of the platinum group -- used as a catalyst or in alloys with other metals

Passivation	MIL-S-5002 rust prevention via removal of embedded iron particles from corrosion resistant steel parts
PDF	Power Density Function
PDR	Preliminary Design Review
Plasma	A collection of charged particles (as in the atmospheres of stars or in a metal) containing about equal numbers of positive ions and electrons and exhibiting some properties of a gas but differing from a gas in being a good conductor of electricity and in being affected by a magnetic field.
POD	Project Operations Director
Porosity	Cavity-type discontinuities formed by gas entrapment during solidification
PPL	Preferred Parts List
PPTA	Piece Part Thermal Analysis
PRACA	Problem Reporting and Corrective Action system
Prepreg	Composite matrix (fabric) pre-impregnated with resin
PROBAN	Probabilistic Analysis Program
PROBLEM ADVISORY	A report of 1) preliminary information on a suspected problem, or 2) a problem with parts, components, materials, manufacturing processes, specifications or test equipment that has an unknown or a low probability of causing a functional failure.
PSA	Part Stress Analysis
PSAM	Probabilistic Structural Analysis Methods (Part of NESSUS computer code)
Pultrusion	Forming by pulling a material through an orifice
Pyroshock	Pyrotechnic shock
Radiation, Solar	Thermal and X-ray energy originating at the sun, includes sun spot activity
Radiation, Cosmic	A stream of atomic nuclei of heterogeneous extremely penetrating character that enter the earth's atmosphere from outer space at speeds approaching that of light and bombard atmospheric atoms to produce secondary particles (as mesons) possessing some of the original energy
RFA	JPL's Recommendation for Action form
Rheology, Matrix	The measurement of flow of a matrix under various physical conditions
RMS (Root mean square)	The square root of the arithmetic mean (average) of the squares of a set of numbers
RSMB	Rocket Soilid Motor Booster
RSS (Root sum square)	The square root of the sum of the squares of a set of numbers
RSRM	Redesigned Solid Rocket Motor
SAFE ALERT	Report of problem that relates to the safety of personnel or equipment.
Safing	General purpose safe-state response initiated by both system and subsystem internal fault protection

SAMS	Space Acceleration Measurement System: Provides Orbiter acceleration measurements in support of microgravity experiments Shuttle Attachment Manipulator System
SAR	Synthetic Aperture Radar
SCIM	Standard (atmospheric) cubic inches per minute; volumetric flow rate
SDIO	Strategic Defense Initiative Office
SERT	Space Electronics Rocket Test
SFP	Single Failure Point
SINDA	Systems Improved Numerical Differencing Analyzer
Single Event Upset (SEU)	Temporary “soft” failures manifested as anomalous bit flips or spurious commands resulting from impinging of high energy radiation
SMM	Solar Maximum Mission
SOAR	Spacecraft Orbital Anomaly Report
Spallation	The lifting of a surface in layers by loss of adhesion caused by such influences as corrosion, oxidation, matrix cracking
SPAR-3	GSFC's "Standard Payload Assurance Requirements"
SPHINX	Space Plasma High Voltage Interaction Experiment
SPI	JPL's Standard Practice Instruction
SPICE	Simulator Program with Integrated Circuit Emphasis)
SRB	(Space Shuttle) Solid Rocket Booster
SRM	(Space Shuttle) Solid Rocket Motor
SSC	John C. Stennis Space Center
SSME	Space Shuttle Main Engine
SSPTA	Simplified Payload Thermal Analyzer
STRUREL	Structural Reliability Program
STS	Space Transportation System: *The Space Shuttle - Manned launch vehicle dedicated to space exploration*
SXI	Solar X-Ray Imager
SXT	Solar X-Ray Telescope
TDRSS	Tracking and Data Relay Satellite
Telltale	A sensor that provides an indication of environment or signal excursions/accumulation during a test or mission. (Also see “Dumet”)
TRASYS	Thermal Radiation Analyzer System
Thoriated Tungsten	Dispersion hardening of tungsten using thorium oxide (typically 2%)
TIG	Tungsten Inert Gas welding process
TIROS	NOAA/Television Infrared Observation Satellite
TML	Total Mass Loss

TOPEX/POSEIDON	Ocean Topographic Experiment
TOS	Transfer Orbit Stage: *Upper stage system for Shuttle and Titan* Test Orbiting System
Transmutation	Bombarding an element to create another element
Transonic	Being or relating to a speed approximating the speed of sound - often used of aeronautical speeds between 600 and 900 miles per hour
Tribo-electric	Generation of static electricity by friction or physical separation of material
TSS	Tethered Satellite System: *Cooperative system developed by ASI and NASA which is capable of deploying and retrieving a satellite attached by a wire tether from distances up to 100km from the Orbiter*
TTL	Transistor to transistor logic
TWT	Travelling Wave Tube
UARS	Upper Atmospheric Research Satellite
UCR	Unsatisfactory Condition Report (part of MSFC PRACA system)
VCHP	Variable conductance heat pipe
VGR	Voyager
Vibroacoustics	An environment induced by high intensity acoustic noise associated with various segments of the flight profile; it manifests itself throughout the payload in the form of directly transmitted acoustic excitation and as structure-borne random vibration excitation.
VPPA	Variable Polarity Plasma Arc welding method
WCA	Worst Case Analysis
Weber	SI unit of magnetic flux (volt-second)
XRF	X-Ray Fluorescence